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| **Unit Title:** *Algebraic Equations*  **Names of Teachers who Developed Unit: Napolitano, Suarez, Palmeri**  **Dates Developed: 12/ 14 and 1/12**  **Approximate Dates when Taught During School Year:** *December 1st – December 15th*   **Approximate Number of Periods:** 16  **Summary:**  *Students will begin writing algebraic expressions and equations, leading to solving two-step and multi-step equations.*   **Print Materials Needed:** *Weekly POWs, student worksheets, culminating task*  **Resources:** IMPACT text, Math Connects, laptops, Coachbook, Acuity, Compass (ESL/SPED), SmartBoard, document camera, algebra tiles  **Internet Resource Links:**   *nyc-acuity.mcgraw-hill.com* *iteachilearn.org* | | |
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| **Stage 1: Desired Results** | | |
| **Big Ideas (“Over-arching” Concepts/Ideas/Connections)**   * Big Idea 1 * Big Idea 2 * Big Idea 3 * Big Idea 4 * Big Idea 5   **Essential Questions**   * **How do I use algebraic expressions to analyze or solve problems?** * **How is thinking algebraically different from thinking arithmetically?** * **What are like terms?** * **How can an algebraic expression help solve real world problems?** * **What do variables represent in equations?** * **What is the first step when you are solving an equation with variable terms on both sides?** | | |
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| **Know** | **Understand** (CCLS Standards) | **Do** (Skills) |
| **Vocabulary:**  *Expression*  *Equation*  *Distributive property*  *Like terms*  *Monomial*  *Polynomial*  *Inverse operations* | **Students will understand:**   * Understanding 1- Represent and analyze algebraically a wide variety of problem solving situations      * Understanding 2 -             Will perform algebraic            procedures accurately.  MP3 - Construct a viable argument and critique the reasoning of others  MP4 - Model with Mathematics | **Students will be able to:**  *Item 1-Translating verbal sentences into algebraic expressions*   *Item 2- Translating verbal sentences into algebraic equations*  *Item 3- Solving one-step equations using addition and subtraction*  *Item 4- Solving one-step equations using multiplication and division*  *Item 5- Solving 2-step equations*   *Item 6- Solving multi-step equations applying the distributive property*  *Item 7- Solving multi-step equations by combining like terms*  *Item 8- Solving multi-step equations with variables on both sides* |
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| **Stage 2: Assessment Evidence** | | | | |  |
| **Assessments/Performance Tasks and Rubric Titles** | | | | |  |
| **Instructional Tasks and appropriate task- aligned rubric**  (This sections needs a summary of each Instructional Task, the actual Instructional Tasks, the respective task specific rubrics, the related annotated student work “anchor” examples and any ELL and/or SpEd versions for **each Instructional Task**)  Week 1 Topic:  Solving One-Step Equations Using Addition  -Solving One-Step Equations Using Subtraction  (Use Vertical Method for both addition & subtraction)  -Solving One-Step Equations Using Multiplication  -Solving One Step Equations Using Division  To differentiate use algebra tiles.  8.PS.6  8.R.1  POW  Weekly Assessment  Week 2 Topic:  -Review Simplifying Algebraic Expressions using distributive property and combining like terms.  -Solving Two Step Equations  8.PS.6  8.PS.3  8.A.2  7.A.4  POW  Weekly Assessment  Week 3 Topic:  Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation  7.A.4  8.CN.4  POW  Weekly Assessment  **School-wide Assessments:**  Quarterly Assessments | | | | |  |
| **Additional Assessment Evidence** | | | | |  |
| Teacher-made classroom assessments  Problem of the Week  Entrance/Exit Tickets  Group Projects | | | | |  |
| **Stage 3: Learning Plan** | | | | |  |
| **(This is the section where you layout the lesson plans for the unit. Your options include: a summary of each lesson in a chart/list/etc., a curriculum map and/or the actual lessons with the understanding that they are “suggested” for the unit.)**    **And so on…**   |  |  |  | | --- | --- | --- | | **(If you have a curriculum map or lesson plan already created, just “cut and paste” it here and** Week 1 Topic:  Solving One-Step Equations Using Addition  -Solving One-Step Equations Using Subtraction  (Use Vertical Method for both addition & subtraction)  -Solving One-Step Equations Using Multiplication  -Solving One Step Equations Using Division  To differentiate use algebra tiles.  8.PS.6  8.R.1  POW  Weekly Assessment  Week 2 Topic:  -Review Simplifying Algebraic Expressions using distributive property and combining like terms.  -Solving Two Step Equations  8.PS.6  8.PS.3  8.A.2  7.A.4  POW  Weekly Assessment  Week 3 Topic:  Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation  7.A.4  8.CN.4  POW  Weekly Assessment  **School-wide Assessments:**  Quarterly Assessments  **modify it to meet the UbD**  **Week 1 Topic:**  Solving One-Step Equations Using Addition  -Solving One-Step Equations Using Subtraction  (Use Vertical Method for both addition & subtraction)  -Solving One-Step Equations Using Multiplication  -Solving One Step Equations Using Division  To differentiate use algebra tiles.  8.PS.6  8.R.1  POW  Weekly Assessment  **Week 2 Topic:**  -Review Simplifying Algebraic Expressions using distributive property and combining like terms.  -Solving Two Step Equations  8.PS.6  8.PS.3  8.A.2  7.A.4  POW  Weekly Assessment  **Week 3 Topic**:  Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation  7.A.4  8.CN.4  POW  Weekly Assessment  **School-wide Assessments:**  Quarterly Assessments    **Differentiation:** Building Vocabulary  Many students would benefit from a chart listing some key words and phrases that indicate the four operations.  plus ,sum,total increased by, in all,more than,  minus, less,less than, subtract, decreased by, difference,  times,  product ,multiplied, each  of,divided by, quotient per rate | | | | **Readiness/Representatio** | **Profile: Learning Styles /Action ActionMultiple Intelligences** | **Interest/Engagement** | | * **(Provide Examples)** * **(Provide Examples)** * **(Provide Examples)** | * **(Provide Examples)** * **(Provide Examples)** * **(Provide Examples)** | * **(Provide Examples)** * **(Provide Examples)** * **(Provide Examples)** | | **Universal Design for Learning:** | | | | * REPRESENTATION: The “what” of learning. How does the task/unit present information and content in different ways? How students gather facts and categorize what they see, hear, and read. How are they identifying letters, words, or an author's style?   In this task/unit, teachers can…Show different stategies using chartboard computers, clickers   * ACTION/EXPRESSION: The “how” of learning. How does the task/unit differentiate the ways that students can express what they know? How do they plan and perform tasks? How do students organize and express their ideas?   In this task and unit, teachers can… **Use Smartboard, clickers, students using graphic organizers**   * ENGAGEMENT: The “why” of learning. How does the task and unit stimulate interest and motivation for learning? How do students get engaged? How are they challenged, excited, or interested?   In this task and unit, teachers can… **(Provide a summary)** | | | | **Task Modifications and Accommodations** | | |   **Accommodations for ELL/LEP:** Accommodation #1: Math Glossaries/Dictionaries provided to all ELL students  Accommodation #2  Use with the exercises. ELL students can benefit from listening and participating in discussions with peers. Have  students work in small groups to discuss their answers to the in-class exercises. The material of this lesson is often familiar to students, therefore being confident with the mathematics content, ELL students can work on their language skills.  Accomidation #3  Above Level learners  Have students create there own algebraic equation involving two operations-in the writing equation lesson of the week   **Accommodations for SwD/SpEd:** Accommodation #1: Differentiated/Modified POWs Accommodation #2: Differentiated HW-s from –Study Guide – a worksheet with examples and practice worksheet no examples | | | | |  |
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